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## A COMPARATIVE STUDY OF STATE REGULATIONS FOR THE CONTROL OF INFLUENZA.

By L. W. FREEZER, Educational Agent, Minnesota State Board of Health.

This paper was prepared as a report for the Minnesota State Board of Health on the existing influenza regulations of the various States. The data which it contains were collected with a view to placing the board in possession of information which might be useful to it in revising its regulations. Ever since the memorable epidemic of the fall of 1918 it has been keenly realized that there is a wide divergence of opinions, methods, and governmental regulations in the various States and municipalities regarding the control of influenza.

The regulations of the State of Minnesota were studied in the light of accumulated criticism of certain provisions which were considered by some to be more or less impracticable of enforcement. It then appeared that if the regulations of the other States were secured, a comparative study could be made which would bring out the experience of the country at large and aid in formulating amendments which would take advantage of the experience and avoid the shortcomings of other communities. The United States Public Health Service was unable to furnish the information desired, since it had undertaken no study of precisely this scope. Therefore a questionnaire was sent out to the State health officers of each of the States.

After reviewing the questions which had been raised by local experience, it was decided to ask seven principal questions, some of which were subdivided. These questions were as follows:

1. Is influenza reportable?
  - (a) To whom is it reportable, local or State health officer?
  - (b) Is it reportable by mail or by wire?
2. Are influenza patients quarantined or isolated?<sup>1</sup>
  - (a) How long is isolation or quarantine maintained?
  - (b) Does this apply to other members of patient's family?
3. Is influenza placarded?
4. Is the closing of public places directed by the State health officer or left to local health authorities to determine?
5. What class of public places or public meetings does your State health authority recommend closing?
  - (a) Under what circumstances do you consider an epidemic situation to justify such closing as is required?
6. Are public funerals forbidden?
  - (a) Precisely who is permitted to attend a private funeral?
7. Do you recommend the use of serum?
  - (a) As a prophylactic?
  - (b) As treatment?

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<sup>1</sup> Quarantine: The separation of the patient and others in the same household from all other persons, and the prohibition of entrance to and exit from the premises where the sick person is confined.

Isolation: The separation of the patient and actual attendants in the sick room from all other persons, without restriction of other members of the same household, provided that they have no contact with the patient.

*Influenza regulations in force in 40 States, compiled from answers to a questionnaire sent out March 15, 1920.*

State.	Reporting influenza.			Are influenza patients quarantined or isolated?			Closing of public places or determined by State or local health officer?	Class of public places or meetings State authority recommends closing.	Funerals.		Recommend serum (a) as prophylactic or (b) as treatment?
	Reportable?	To whom?	By mail or wire?	Which?	How long?	Applicable to other members of patient's family?			Public funerals forbidden?	Who is permitted to attend private funerals?	
Alabama.....	Yes.....	Local.....	Mail.....	No.....	None.....	No.....	Local.....	Special.....	No.....	.....	No.....
California.....	Yes.....	Local.....	Mail.....	Isolation.....	Till recovery.....	No.....	State.....	Special.....	No.....	.....	No.....
Colorado.....	Yes.....	Local.....	Mail.....	Isolation.....	2 weeks after normal temperature.....	No.....	Local.....	Special.....	No.....	.....	No.....
Connecticut.....	Yes.....	Local.....	Mail.....	No.....	Till recovery.....	No.....	Local.....	Special.....	No.....	.....	No.....
Delaware.....	Yes.....	State.....	Mail.....	No.....	No.....	No.....	State.....	None.....	Yes.....	Family.....	No.....
Florida.....	Yes.....	State.....	Mail.....	Local.....	Till recovery.....	No.....	State or local.....	None.....	No.....	.....	No.....
Illinois.....	Yes.....	Local.....	Mail.....	Isolation.....	5 days after normal temperature.....	Contacts.....	Local.....	All.....	Yes.....	Family.....	No.....
Indiana.....	Yes.....	Local.....	Mail.....	No.....	.....	Yes.....	Local.....	None.....	No.....	.....	No.....
Iowa.....	Yes.....	Local.....	Mail.....	Quarantine.....	5 days after normal temperature.....	Contacts.....	Local.....	None.....	Yes.....	Family.....	No.....
Kansas.....	Yes.....	Local.....	Mail.....	Quarantine.....	.....	.....	Local.....	All.....	Yes.....	Family.....	No.....
Kentucky.....	Yes.....	Both.....	Mail.....	Local.....	.....	No.....	State.....	Special.....	No.....	.....	Yes.....
Louisiana.....	Yes.....	Both.....	Mail.....	Local.....	.....	No.....	Local.....	Special.....	No.....	.....	No.....
Maine.....	Yes.....	Local.....	Mail.....	Isolation.....	Till recovery.....	No.....	Local.....	None.....	No.....	.....	No.....
Maryland.....	Yes.....	Local.....	Mail.....	Isolation.....	.....	No.....	Local.....	None.....	Yes.....	Family.....	No.....
Massachusetts.....	Yes.....	Local.....	Mail.....	Local.....	.....	No.....	Local.....	None.....	No.....	.....	No.....
Michigan.....	Yes.....	Local.....	Mail.....	Isolation.....	7 days after normal temperature.....	Contacts.....	Local.....	All.....	Yes.....	Contacts.....	No.....
Minnesota.....	Yes.....	Local.....	Mail.....	Quarantine.....	5 days after normal temperature.....	Yes.....	State.....	All.....	Yes.....	Family.....	No.....
Mississippi.....	Yes.....	State.....	Mail.....	No.....	.....	No.....	Local.....	None.....	No.....	.....	No.....
Missouri.....	Yes.....	Local.....	.....	Isolation.....	5 days after normal temperature.....	No.....	Both.....	None.....	Yes.....	Contacts.....	No.....
Montana.....	Yes.....	Local.....	Mail.....	Isolation.....	Till recovery.....	Contacts.....	State.....	None.....	Open-air services permitted.....	.....	No.....
Nebraska.....	Yes.....	Local.....	Mail.....	Quarantine.....	.....	No.....	.....	.....	.....	.....	No.....
New Hampshire.....	Yes.....	Both.....	Mail.....	Quarantine.....	Local.....	No.....	Local.....	All.....	Yes.....	Family.....	No.....
New Jersey.....	Yes.....	Both.....	Mail.....	Isolation.....	.....	No.....	Local.....	Special.....	Yes.....	.....	No.....
New Mexico.....	Yes.....	Local.....	Mail.....	Isolation.....	5 days after normal temperature.....	Yes 4 days last contact. <sup>1</sup>	Local.....	None.....	No <sup>2</sup> .....	.....	No.....
North Carolina.....	Inspection cases.....	Local.....	Mail.....	Local.....	No.....	No.....	Local.....	All.....	Yes.....	Family.....	.....

New York.....	In special cases.	Local...	Mail...	Local...	Local...	Local...	Local...	Local...	No.	Family...	No.
North Dakota.....	Yes.....	Local...	Mail...	Isolation.....	Local...	2 days after normal temperature.	No.....	State...	Special.	Family...	No.
Ohio.....	Yes.....	Local...	Mail...	Isolation.....	No.....	Week after normal temperature.	No.....	Local...	None...	Family...	No.
Oklahoma.....	Yes.....	Local...	Mail...	Quarantine.....	Local...	Local.	Yes.....	Local...	None...		No.
Oregon.....	No.....	Local...	Mail...	Isolation.....	No.....	Till recovery.	No.....	Local...	None...		No.
Pennsylvania.....	Yes.....	State...	Mail...	No.....	Local...	Till recovery.	Contacts	Local...	Special.	Contacts.	No.
Rhode Island.....	Yes.....	Local...	Mail...	Isolation.....	No.....	Till recovery.	Contacts	State...	None...		No.
South Dakota.....	Local only.	Local...	Mail...	No.....	Local...		No.....	Local...	None...		No.
Tennessee.....	Yes.....	Local...	Mail...	Quarantine.....	Local...	10 days after normal temperature.	No.....	Local...	Special.	Family...	No.
Vermont.....	Yes.....	Local...	Mail...	No.....	Local...	No time fixed.	No.....	Local...	None...		No.
Virginia.....	Yes.....	Both...	Mail...	Isolation.....	Local...	No time fixed.	No.....	Local...	None...		No.
Washington.....	Yes.....	Local...	Mail...	Placard only.	Local...	4 days after normal temperature.	Yes.....	Local...	All...		No.
West Virginia.....	Yes.....	Local...	Mail...	Isolation.....	Local...	10 days after normal temperature.	Yes.....	Local...	None...		No.
Wisconsin.....	Yes.....	Local...	Both...	No.....	Local...		Yes.....	State...	None...	Family...	No.
Wyoming.....	Yes.....	State...	Mail...	No.....	Local...		Yes.....	State...	None...		No.

<sup>1</sup> That is, 4 days from last contact with patient.

<sup>2</sup> Public funerals are permitted if the 4-day quarantine of the family is over.

Replies to the questionnaire were received from 39 States, exclusive of Minnesota.

In answer to some of the more important questions a majority of the States displayed considerable agreement. However, on a few questions it was noticeable that there was a clearly marked division between a majority of States which took one definite position and an important minority which took a different one. In answer to most of the questions there was a sprinkling of replies which could not be included in either of the principal groups. Where the answers seemed to vary more in the manner in which they were expressed than in the fundamental intent, it seemed best to take the liberty of interpreting them to some extent for the purpose of classifying them in one of the groups. The complete tabulation of replies, which is given herewith, makes it possible, by running down the columns, to note quickly and in a general way the trend of replies to any particular question. Then by locating the State and running across the page it is easy to grasp the general procedure in controlling influenza in that State.

The ratios between the different groups as regards their positions on the various points covered are given in the summary of the tabulated replies. In reading this summary it should be borne in mind that the percentages do not refer to the total number of States in the Union, but merely to the number of those States (40, including Minnesota) answering the questionnaire or, in some cases, the particular question. In most cases all questions were answered, but in some instances a very small number of States sending in the questionnaire did not answer certain questions. It is, of course, impossible to state whether any of the percentages given in this report represent the proportional variation of opinion or practice for the entire country.

#### Summary of Replies.

<i>Question No. 1.—Is influenza reportable?</i>		Percent.
Yes (36).....		90.0
No (1).....		2.5
Yes (in special cases, 2).....		5.0
Yes (locally, 1).....		2.5

*Question No. 1 (a).—To whom is it reportable, local or State health officer?*

(Including only the 39 States where influenza is reportable.)		Percent.
Local health officer only (29).....		74.4
State health officer only (5).....		12.8
Both (5).....		12.8

A majority of the answers to this question indicate that the custom is to have cases reported first to the local health officer and then by him transmitted to the State health officer. Others clearly indicate that reports were made directly to the State health officer by the attending physician.

*Question No. 1 (b).*—Is it reportable by mail or by wire?

(Including only the 39 States where influenza is reportable.)

	Per cent.
By mail (36).....	92.3
Both (1).....	2.6
No reply (2).....	5.1

Many State health officers explained that during epidemics reports by wire were also requested from local health officers, daily in some States. These wire reports were asked for only in cities in some States; in others, only in selected larger cities.

*Question No. 2.*—Are influenza patients quarantined or isolated?

	Per cent.
Isolated (17).....	42.5
Quarantined (7).....	17.5
Neither (9).....	22.5
Left to local authorities (5).....	12.5
By placard only (1).....	2.5
No reply (1).....	2.5

*Question No. 2 (a).*—How long is isolation or quarantine maintained?

(Including only the 24 States where isolation or quarantine is maintained.)

	Per cent.
Until recovery from all clinical symptoms (5).....	20.8
Until 5 days after return to normal temperature (5).....	20.8
Until 2 days after return to normal temperature (1).....	4.2
Until 4 days after return to normal temperature (1).....	4.2
Until 7 days after return to normal temperature (2).....	8.3
Until 10 days after return to normal temperature (1).....	4.2
Until 14 days after return to normal temperature (1).....	4.2
No time fixed (1).....	4.2
Determined locally (2).....	8.3
No reply (5).....	20.8

*Question No. 2 (b).*—Does this apply to other members of the patient's family?

(Including only the 24 States above.)

	Per cent.
No (11).....	45.8
Yes (5).....	20.8
Contacts only (5).....	20.8
No reply (3).....	12.5

*Question No. 3.*—Is influenza placarded?

	Per cent.
No (19).....	47.5
Yes (14).....	35.0
Controlled by local authorities (5).....	12.5
No reply (2).....	5.0

*Question No. 4.*—Is the closing of public places directed by the State health officer or left to the local health authorities to determine?

	Per cent.
Local (29).....	72.5
State (8).....	20.0
Both (2).....	5.0
No reply (1).....	2.5

*Question No. 5.*—What class of public places or public meetings does your State health authority recommend closing?

	Per cent.
None (21).....	52.5
Special (11).....	27.5
All (7).....	17.5
No reply (1).....	2.5

In the answers to the questionnaire there was much diversity of opinion among the different States as to the types of places considered nonessential. Those most commonly so designated and stated as places which should be closed under epidemic conditions are dance halls, skating rinks, and the like.

*Question No. 5 (a).*—Under what circumstances do you consider an epidemic situation to justify such closing as is required?

Practically all the State health officers who replied to the questionnaire answered this question by stating that in a situation like the 1918 epidemic closing regulations should be applied, but in an epidemic like the one of January and February, 1920, closing was unnecessary.

Two States answered "When epidemic."

One State answered "When more than 3 per cent of the population is affected."

*Question No. 6.*—Are public funerals forbidden?

	Per cent.
No (22).....	55.0
Yes (17).....	42.5
Qualified (1).....	2.5

*Question No. 6 (a).*—Precisely who is permitted to attend a private funeral?

(Based on the answers of the 17 States (42.5 per cent of the 40 States) answering "yes" to question No. 6.)

	Per cent.
Family (13).....	76.5
Contacts (3).....	17.7
No reply (1).....	5.9

*Question No. 7.*—Do you recommend the use of serum (a) as a prophylactic; (b) as treatment?

One State recommended its use for prophylaxis only.

No other State recommended it at all, although some answered that they recommended antipneumococcic vaccine as a prophylactic against complications.

### Summary of Conclusions.

1. Great divergence of practice exists on practically all features of influenza control as represented by the regulations and other measures which are in force throughout the country.

2. It is noticeable that 97.5 per cent of the 40 States considered require some system of reporting. The reports are made to the local health officer in 74.4 per cent of these States; to the State health officer in 12.8 per cent; and to both in 12.8 per cent. The method is the same in 92.3 per cent, namely, by mail.

3. There is a great division in practice in quarantine methods; also in regard to placarding.

4. A noticeable fact with regard to the policy of closing public places in time of epidemic is a tendency to shift the responsibility to the local health authorities. A number of comments which were received in addition to the straight answers to the questions indicated a growing inclination to the view that closing is useless.<sup>1</sup>

5. On the matter of public funerals the practice is fairly equally divided.

6. Relative to the use of serum, it is very clear that public health authorities, almost without exception, are unwilling to take the responsibility of making any recommendations whatsoever.

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### ACID BURNS ON HANDS OF SOLDERERS.

#### EXPERIENCE AT THE CURTIS BAY GENERAL ORDNANCE DEPOT, SOUTH BALTIMORE, MD.

By HARRY W. KEATLEY, Acting Assistant Surgeon, United States Public Health Service.

#### The Process.

During the early part of April, 1920, a soldering department was established at the Curtis Bay General Ordnance Depot, South Baltimore, Md., in connection with the handling of shells placed for permanent storage. To assure safe storage, each shell is taken from its original case of heavy pasteboard and placed in a tin container, the top of which it is necessary to solder on in order to make the container absolutely airproof and waterproof. The personnel of this department consists of a foreman and several experienced solderers and their helpers.

The shells are taken from their individual containers by one group of laborers and placed upon an automatic conveyor. They are received by another group of men. These latter workers place the shells in the storage containers of tin and drive the tin cover down snugly over the end. The containers are then passed to the

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<sup>1</sup> An extensive discussion of influenza control measures, in which this method receives considerable attention, is contained in "Influenza: A Study of Measures Adopted for the Control of the Epidemic," by W. H. Kellogg, M. D., published by the California State Board of Health, 1919.